



CHLOROETHANE

CAS # 75-00-3

Agency for Toxic Substances and Disease Registry ToxFAQs

June 1999

This fact sheet answers the most frequently asked health questions (FAQs) about chloroethane. For more information, call the ATSDR Information Center at 1-888-422-08737. This fact sheet is one in a series of summaries about hazardous substances and their health effects. It's important you understand this information because this substance may harm you. The effects of exposure to any hazardous substance depend on the dose, the duration, how you are exposed, personal traits and habits, and whether other chemicals are present.

HIGHLIGHTS: Exposure to chloroethane can occur from breathing air or drinking water containing it. Exposure to high levels of chloroethane can affect your nervous system, causing lack of muscle control and unconsciousness. This substance has been found in at least 282 of the 1,467 National Priorities List sites identified by the Environmental Protection Agency (EPA).

What is chloroethane?

(Pronounced klôr' ô ëth' ân')

Chloroethane is a colorless gas at room temperature and pressure. It has a characteristically sharp smell. It is a liquid when stored in pressurized containers; however, the liquid evaporates quickly when exposed to room air. Chloroethane catches fire easily.

It was used in leaded gasoline, but strict new government regulations have reduced that use dramatically. It is used in the production of cellulose, dyes, medicinal drugs, and other commercial products, and as a solvent and refrigerant.

It is also used to numb the skin before medical procedures such as ear piercing and skin biopsies and as a treatment in sports injuries.

What happens to chloroethane when it enters the environment?

- ☐ Most chloroethane exists as a gas in the atmosphere.

- ☐ It breaks down fairly rapidly (about half disappears within 40 days) by reacting with other substances in the air.
- ☐ Small amounts can enter groundwater by filtering through the soil.
- ☐ In groundwater, chloroethane is slowly changed into a simpler form by reaction with water.
- ☐ Some types of bacteria in water may break it down to smaller compounds.

How might I be exposed to chloroethane?

- ☐ Chloroethane can be released to air from factories that manufacture or use it.
- ☐ It can evaporate from landfills.
- ☐ It can be released during its use as a solvent, refrigerant, and anesthetic.
- ☐ Chloroethane may be present in drinking water as a result of chlorination.
- ☐ People may be exposed through skin contact if it is used in a medical procedure.
- ☐ Workers who may be exposed include doctors, nurses, mechanics, plumbers, and painters.

ToxFAQs Internet address via WWW is <http://www.atsdr.cdc.gov/toxfaq.html>

How can chloroethane affect my health?

Brief exposure to high levels can produce temporary feelings of drunkenness. At higher levels, it can cause lack of muscle coordination and unconsciousness. It can also cause stomach cramps, nausea, vomiting, and eye irritation. Chloroethane is sometimes applied to the skin as a numbing agent before surgery. If it is applied for too long, frostbite can result. Some people had allergic reactions to it, and others experienced mild pain after being sprayed for 10 seconds.

How likely is chloroethane to cause cancer?

Laboratory tests in animals have shown that long-term exposure can cause cancer in mice. It is not known whether it causes cancer in humans. The International Agency for Research on Cancer (IARC) has concluded that chloroethane is not classifiable as to its carcinogenicity in humans.

How can chloromethane affect children?

We don't know whether chloroethane exposure can affect development in people. In animal studies, the babies of mice exposed to chloroethane during pregnancy had delayed development. It is not known whether children differ from adults in their susceptibility to chloroethane.

How can families reduce the risk of exposure to chloroethane?

- ☐ Avoid using products that contain chloroethane if you are pregnant.
- ☐ Limit the use of consumer products that contain it.
- ☐ Open windows and doors when such products are used in the home.

- ☐ Make sure containers are tightly covered.
- ☐ Make your children aware of the harmful effects of sniffing glue, paints, and other solvents.
- ☐ Store products containing it safely and follow directions carefully.

Is there a medical test to show whether I've been exposed to chloroethane?

There are complex analytical tests that chemists use to measure chloroethane in blood, milk, or urine. However, no commonly used medical tests are available to determine whether or not a person has been exposed to chloroethane.

Has the federal government made recommendations to protect human health?

EPA requires industries to report accidental discharges or spills of 100 pounds or more of chloroethane to EPA.

The Occupational Safety and Health Administration (OSHA) regulates the amount of chloroethane in workplace air. The limit for an 8-hour workday, over a 40-hour workweek, is 1,000 parts per million (1,000 ppm).

The American Conference of Governmental Industrial Hygienists (ACGIH) recommends a limit of 100 ppm chloroethane in workplace air.

Source of Information

Agency for Toxic Substances and Disease Registry (ATSDR). 1998. Toxicological profile for chloroethane. Atlanta, GA: U.S. Department of Health and Human Services, Public Health Service.

Where can I get more information? For more information, contact the Agency for Toxic Substances and Disease Registry, Division of Toxicology, 1600 Clifton Road NE, Mailstop E-29, Atlanta, GA 30333. Phone: 1-888-422-8737, FAX: 404-639-6315. ToxFAQs Internet address via WWW is <http://www.atsdr.cdc.gov/toxfaq.html> ATSDR can tell you where to find occupational and environmental health clinics. Their specialists can recognize, evaluate, and treat illnesses resulting from exposure to hazardous substances. You can also contact your community or state health or environmental quality department if you have any more questions or concerns.

